



LOCKHART SHIRE



The Rock Hill National Park

State of the Environment Report

1 July 2016 to 30 June 2017

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INTRODUCTION

The report aims to provide a basis for the Council and the community to take stock of environmental resources and threats thereto, within our local government area. It proposes to state, at this particular point in time, the pressure that human activities have imposed on our immediate natural environment, the current resultant state of that natural environment, and the response of Council and associated agencies to these pressures and impacts.

In the preparation of this and past reports the facilities of a large number of associated agencies have been utilised either directly or via their input to publications which have been accessed, in addition to information already held at Council. These include:

- NSW Office of Environment & Heritage
- National Parks and Wildlife Service
- NSW Department of Primary Industries
- Bureau of Meteorology
- Local Land Services
- CSIRO Land and Water
- The National Landcare Program
- National Trust of Australia (Heritage)

This report is presented according to the requirements of Section 428A of the NSW Local Government Act, 1993 as an integral part of Council's Annual Report.

The report is of necessity an evolving and dynamic statement. It will grow in relevance and application as the process of data gathering, presentation, problem isolation and the application of solutions are refined. Council is committed to meeting the following objectives to assist in the refinement of the report and the community's understanding of environmental impacts:

- (1) to develop and streamline a framework for SoE reporting,
- (2) to consolidate existing information available to Council into one document for public use,
- (3) to identify all environmental issues in our local government area,
- (4) to identify data gaps as an on-going imperative for further investigation and data collection, and
- (5) to develop and streamline regional and cooperative partnerships to maximise the environmental benefits of information exchange.



LAND

2.1 DESCRIPTION

Land within the Shire falls across two catchments, being that of the Murray and Murrumbidgee – each representing roughly an equal share. There are considered to be five main villages or townships, and include Lockhart, The Rock, Pleasant Hills, Yerong Creek and Milbrulong. Smaller communities such as Tootool are scattered throughout. These areas, however occupy only a small percentage of the land utilised within the Shire, with agricultural land as the predominant land use.

The area consists of gently undulating hills to the east, and flat terrain/ floodplains to the west. The highest point in the Shire is the summit of The Rock Hill at 554m above mean sea level, and the lowest point of 140m in the western district. Average slopes of 5-10% are recorded in the far east of the Shire, which level out to 1-5% through the middle, and further flatten out to grades of less than 1% in the west, over an array of soil types.

2.2 PRESSURE

2.2.1 Major Land use

Urban Development

Areas for urban or residential development are currently defined in the Lockhart Local Environment Plan (LEP) 2012 as RU5 Village. Much of the land reserved for residential use has already been cleared of native vegetation, however large areas remain undeveloped and are still predominantly used for agricultural use.

As development of land proceeds, land use planning ensures that access through road networks will continue from existing roads, and cause minimal disruption to services.

Council has a total road length of approximately 1,659.47km, divided as follows:

Main Roads (sealed)	121.40km
Sealed Local Roads	410.89km
Gravel Local Roads	706.79km
Formed or unconstructed Local Roads	420.39km

On site sewerage management maintain a strong presence in urban areas, especially on the east side of The Rock, where larger lot sizes and lack of mains sewer restricts sewerage disposal. Council has undertaken a feasibility study for extending the existing sewer system to this area of The Rock, and is currently in drafting process.

Agriculture (crops/pasture/plantations)

Agriculture is the dominant land use within the local government area. The effect of tillage on soil structure and health, the long term use of insecticides, herbicides and fertilisers has no doubt had direct and indirect effects on biodiversity although knowledge of the deleterious aspects of such practices is generally becoming more common.

Native Vegetation Communities

The remaining pockets of remnant vegetation are subject to constant threat from fires, introduced animals (rabbits), weed invasions, recreation pressures, grazing, and further land clearing for broadacre agriculture - which are all likely to reduce the quality of the resource.

Waste Disposal

As of 30 June 2017, there were four (4) operating Council landfill sites within the Shire. These are:

Lockhart Garbage Depot – 9.417 Ha

The Rock Garbage Depot – 8.58 Ha
Pleasant Hill Garbage Depot – 4.148 Ha
Yerong Creek Garbage Depot – 4.05 Ha

Lockhart and The Rock landfill sites have an expected life of 15 years, and Yerong Creek and Pleasant Hills have greater capacity. Wind-blown litter continues to be a problem, along with maintaining all-weather access and on site stormwater management.

2.2.2 Contaminated Sites

Council maintains a register of sites that may be recognised as contaminated in the Shire, and includes night soil disposal areas, and current and former garages and refuelling stations.

2.2.3 Land Clearing and Land Drainage

As within NSW, clearing is restricted through the Local Land Services Act 2013, and the Biodiversity Conservation Act 2016. Some clearing of native vegetation does not require approval under some circumstances, and these are also specified under the dedicated legislation.

Council has not had any dealings with or granted consent for any significant clearing of native vegetation within the Shire.

2.3 STATE

2.3.1 Land Degradation

There are a number of major land degradation types existing in the Lockhart Shire, and these are listed below.

Wind Erosion

No specific information is available; however, a land degradation survey conducted by the Soil Conservation Service in 1987-88 (Graham *et al*, 1989) indicated that the Shire is in a severe wind erosion area.

Sheet/Rill Erosion

Minor erosion exists on The Rock Hill and the Bulloc Range, with extensive erosion in the Wattle Creek catchment area. From Galore Hill to south of Pleasant Hills there are frequent patches of erosion.

Gully Erosion

Minor to extreme cases are evident around The Rock Nature Reserve (The Gap Road and alongside the Olympic Way) and the Bulloc Range. South and south-east of Lockhart erosion is minor to moderate.

Streambank Erosion

The Upper Urangeline Creek, north-west to south-west of Pleasant Hills has severe erosion, as well as the tributary of the Burkes Creek which flows through The Rock Hill Travelling Stock Reserve off Braithwaites Lane. There is also moderate erosion to the Burkes Creek downstream of the Rock, where landholders permit grazing of the riparian zone by cattle and livestock. The effects of streambank erosion have been somewhat minimised over the last 20 years through riparian vegetation plantings and segregation.

Dryland Salinity

Only two saline outbreaks have been identified from OEH (formerly Department of Environment, Climate Change and Water) maps, these being small pockets south of The Rock. In the Brookong Landcare Catchment area, possible discharge sites are located in the lower regions of the catchment, approximately 13km west of Lockhart, along Spanish Avenue. Earlier studies suggest that saline discharge at these sites are localised.

Work carried out by Landcare groups in the past in relation to piezometer readings and planting of perennial pastures have helped improve monitoring and limit the effects of dryland salinity, and such work continues to this day in some areas.

Induced Soil Acidity

No current local maps or data are available; however, the entire Shire has the potential of being affected as illustrated in the 1987-88 land degradation survey undertaken by the Soil Conservation Service (Graham *et al*, 1989).

Soil Structure Decline

Most of the Lockhart Shire is rated as suffering from moderate levels of soil structure decline (Graham *et al*, 1989).

Soil Fertility Decline

Soils are inherently infertile, with deficiencies in Nitrogen and Phosphorous. Intensive cropping is likely to have deprived much of the agricultural land of nutrients, necessitating the need to apply organic and inorganic fertilisers.

2.3.2 Degradation of Remnant Vegetation

Little is known of what the range/distribution of vegetation communities in the area was prior to European settlement. However, it is known that large tracts of land were cleared to open the way for pastoral development. As a result of the past indiscriminate clearing of trees in the Shire there are limited remaining stands of remnant vegetation.

Some of these stands are proclaimed reserves and State forests, e.g. The Rock Nature Reserve (340ha), Galore Hill Reserve (510ha), Brookong State Forest (400ha), Cullivel State Forest (155ha) and Milbrulong State Forest (376ha). Council also possesses significant areas of vegetation along many of its road reserves.

2.4 RESPONSE

2.4.1 Rezoning/Zoning

Zonings for the area during the reporting period are contained in the Lockhart Local Environment Plan 2012 (the LEP). Strategic planning, and consideration of key priorities identified in Council Rural Lands Study allow Council to undertake sustainable urban development, requiring minimal input and interference with rural and agricultural operations.

2.4.2 Land Rehabilitation Programs

- (i) Gravel Pits and Quarries – Operational procedures have been put in place to ensure quarrying activities are carried out in a controlled manner.
- (ii) Tree Planting – Councils ongoing planting program continues within the urban areas, roadsides, reserves, landfill sites and some public open space. Further plantings have been carried out by community groups and private persons to enhance the existing landscape.
- (iii) Remnant Vegetation Survey – A remnant vegetation survey conducted in 1997 has indicated that the Shire's roadsides are a valuable store of remnant vegetation with approximately 42% of roadsides having a high conservation value.

The survey in turn has raised numerous issues in regard to management of such areas and whilst some actions have been put into place by Council, further consultation needs to be carried out on issues which may involve a number of other "players" such as Local Land Services, and private landholders.

It may be more appropriate that some issues be addressed on a regional or statewide basis and Council is constantly assessing its options in regard to those issues.

2.4.3 Property Vegetation Plans

Council has recorded a total of 59 incentive property vegetation plans under the Native Vegetation Act 2003 since March 2007. These plans provide for voluntary, but binding, compliance with property vegetation plans, which are agreed between, in the case of Lockhart Shire Council, the Riverina and Murray Local Land Services, and the proprietors.

2.4.4 Roadside vegetation

A study of remnant vegetation along Council roadsides was undertaken in 1997 which identified in detail areas of remnant roadside vegetation and recommended actions to preserve them. Council has followed through with many of these recommendations, and approximately 70 kilometres of roadside has been directly sown with locally sourced, native seed, to encourage regeneration. This study is currently being updated through an ongoing inspection and reporting program.



CLIMATE, AIR & ENERGY

3.1 DESCRIPTION

Respect towards maintaining clear air and energy production is gaining momentum throughout the State. Focus on renewable energy production continues to progress, and many businesses and private properties are integrating renewable energy production into their operations.

3.2 PRESSURE

There are only small scattered industrial areas in the townships of The Rock, Lockhart and Yerong Creek with no licensed emissions. Due to the size and nature of the industries in the Shire it would be considered that there are no major pollution sources.

There remains very little public transport available within and between residential areas of the Shire, and as a result, while there have been no studies undertaken, theory suggests that use of private vehicles will be a likely contributor to air pollution.

Farming practices are likely to be the single biggest influence on air quality within the area. Stubble burning, carried out towards the end of the fire danger period prior to sowing, results in plumes of smoke entering the atmosphere, and depending on weather and wind direction, wafts right through the developed residential areas of town.

Further, smoke from domestic solid fuel heaters has been noted in greater developed residential areas.

3.3 STATE

No tests have been undertaken to provide levels of particulates, toxic gases, emissions, upper atmospheric conditions or climate change data.

Air pollution in the way of dust is considered to be the major concern in regard to air quality in summer and autumn; smoke from burning off in autumn and pollen in late spring -early summer. It is in this region that there is an associated high level of respiratory problems, such as hay fever and asthma due to pollen levels.

The Australian Photovoltaic Institute state that there are approximately 340 PV installations currently in place, supplying approximately 25.2% of dwellings in the Shire.

3.4 RESPONSE

Council attempts to address problems associated with air quality with public education and awareness, in cooperation with the Murrumbidgee Local Health District.

Complaints received about individual cases of smoke contamination are generally traceable to a particular event or situation, and these are dealt with through warnings and education to the causal link.

Agricultural industry such a Local Land Services, Office of Environment and Heritage and Department of Primary Industries are working with primary industries to encourage zero-till farming as opposed to stubble burning, in turn retaining carbon storages in the soil.



WATER

4.1 DESCRIPTION

4.1.1 Surface Catchments

Within the Lockhart Shire there are 16 named creeks, which are tributaries from the Murray and Murrumbidgee Rivers and their catchments. In addition there are several waterbodies and lakes such as, Grubben Swamp, Lake Cullivel and Lake Gilman in the Shire. Information with regards to these systems is limited.

Of the above list of creeks, six are classified as prescribed or protected streams, these being, Brookong, Dicks, Urangeline, Washpool, Bullenbong and Burkes Creeks. There are also two prescribed lakes, Lake Gilman and Grubben Swamp.

Water quality is greatly influenced by adjacent land use. When these creeks do run, water clarity is very poor due to the amount of soil being washed as runoff into the system and from the moving sediment load of the creek.

4.1.2 Rainfall

Traditionally, the Eastern part of the Shire towards The Rock has a greater annual rainfall than the western part of the Shire. In the year July 2016 to June 2017, a total of 475mm (down from 577mm) was recorded for Lockhart and 518mm (down from 545mm) for The Rock.

4.1.3 Stream Flow

All creeks and streams in the Shire are intermittent (i.e. do not carry water all year round), and little information has been collated with regards to stream flow. In addition the fluctuations in seasons and the ephemeral nature make regular stream flow data collation a resource of uncertain accuracy and relevance. Major creeks in the Shire flooded however in 2010 and again in 2012.

4.2 PRESSURE

4.2.1 Surface and Groundwater Use

The process of listing each new and existing dam site is an extensive one due to the number of rural properties and paddocks. Resources do not allow such a survey at this time.

Floodplain Risk Management Studies and Plans have been carried out for Lockhart and The Rock villages, with recommendations regarding mitigation measures now being implemented.

4.2.2 EPA Licensed Discharge

Licensed discharges occur from the Lockhart treatment works into the Brookong Creek and from The Rock treatment works into the Burkes Creek. While discharges are not restricted, inflows for the plants are limited to 125KL per day, and all plants are running well below these limits.

Effluent inflows (KL)	2013/14	2014/15	2015/16	2016/17
Lockhart WWTP	61,517	73,519	78,228	85,308
The Rock WWTP	37,116	45,970	56,683	45,829
Yerong Creek WWTP	4,120	4,804	5,271	6,037

4.2.3 Recycled Effluent

Council maintains an EPA licensed effluent re-use system at the Lockhart treatment plant. Recycled effluent is treated and utilised, under strictly monitored conditions, as a cheaper source of irrigation water for large areas of garden and turn within various locations of the Lockhart township. These sites include the Lockhart Recreation Ground and Walter Day Park.

Recycled effluent consumed (KL)	2013/14	2014/15	2015/16	2016/17
Lockhart Rec Ground	2,603	13,628	8,375	4,528
Walter Day Park	3,535	5,126	5,007	1,393

4.2.4 Clearing of Riparian (Streamside) Zone

An estimated 60% of streambanks in the Shire are kept well vegetated. The maintenance and re-vegetation of stream banks is a high priority in order to prevent streambank erosion.

4.2.5 Polluting Events

Sewer Overflows

No incidents were reported.

Accidental Discharge

No major incidents were recorded. To date no physical signs of contamination have occurred.

Leachate from Landfills

None evident from visual inspections. No groundwater evident in general proximity.

4.3 STATE

4.3.1 Surface Water Environmental Flows

Modifications to Flow

Lake Cullivel has had its major tributary cut off in an attempt by the landholder to dry out the lake and make it more agriculturally productive. The flow of the Brookong Creek was diverted by the construction of a bank, and now tends towards the Urangeline Creek. The overall effect of this increased flow has not been monitored. Flow into Lake Cullivel now only occurs in periods of intense rainfall and flooding of the creek systems.

Lake Gilman has also had flow reduced by the construction of a bank. Although the lake is approximately one kilometre from the nearest creek line, water recharges the lake through run-off from The Rock Hill range.

4.3.2 Groundwater Recharge

Details are presently unavailable. However, the rate of recharge is likely to be very slow.

4.3.3 Streambed Conditions

Few fish species are likely to be recorded due to the short length of time water flows in the creek lines. However, bird life is often diverse, but more surveying needs to be undertaken to assess this diversity.

4.4 RESPONSE

4.4.1 Audit/Inspection/Monitoring Programs for Non-Scheduled Premises

Bacteriological testing of pool water from The Rock and Lockhart pools is carried out by NSW Health to ensure compliance with Australian Standards.

4.4.2 Riparian Zone Rehabilitation Programs

Extent and condition of riparian vegetation

Riparian vegetation is constantly at risk of overgrazing and stream bank erosion, in various locations through the Shire. Previously, Landcare Groups has undertaken rehabilitation and re-vegetation programs along restricted sections, and effects of damage from cattle are slowly being reduced as a result of the shift from grazing to broad acre cropping.

4.4.3 Industry Pollution Reduction Programs

The Rock, Lockhart and Yerong Creek are the only centres with any form of industrial activity within the Lockhart Shire. In these small townships, industrial premises are mixed throughout the commercial and residential areas. Various possible point sources of pollution include, garages/service stations, spray painters and workshops. Physical monitoring continues to take place in order to gauge the current position.

4.4.4 Property and Catchment Planning (including use of rainwater tanks)

Council has completed a Flood Study, Floodplain Risk Management Study and Plan in regards to the townships of Lockhart and The Rock. These documents were adopted by Council in 2014, and form the basis of flood planning for the developed areas of the Shire, including the investigation of voluntary purchase of flood-affected properties in Lockhart and The Rock.

There are a large number of water tanks in the Shire, which are used predominantly on farms due to the inaccessibility of these properties to the town water supply. Some urban residents continue to install rainwater tanks in response to the drought, with the encouragement of Council.

4.4.5 Stormwater Management and Control Works

Urban stormwater systems continue to be monitored and upgrading works carried out where possible. Underground stormwater systems have been installed along Day street in Lockhart and Yerong Street in The Rock, to enhance diversion of stormwater directly through to the Brookong and Burkes Creeks respectively.



BIOLOGICAL DIVERSITY

5.1 DESCRIPTION

The Rock Hill Reserve and Galore Hill Reserve are the only areas within the Shire that are protected from grazing and have wildlife protection. These are limited areas of remnant bushland, unique in their appearance and their biodiversity.

Faunal diversity is great in remnant forests in the Shire. The Rock Hill Nature Reserve was recorded to have four species of amphibians, 94 species of birds, 12 species of mammals, and nine species of reptiles, whilst at Galore Hill Reserve, 84 species of birds, four species of mammals and three species of reptiles have been recorded.

Floral diversity has been recorded from five sites within the Shire:

- Brookong State Forest – 112 species (including 34 introduced)
- Milbrulong State Forest – 127 species (including 37 introduced)
- Galore Hill Reserve – 190 species (including 47 introduced)
- Flowerpot Hill – 116 species (including 24 introduced)
- The Rock Nature Reserve – 205 species (including 50 introduced)

5.2 PRESSURE

5.2.1 Introduced Species

Animals – Introduced animals such as feral cats, rabbits, hares and foxes find hollowed timber in verges and reserves and use this as their harbour/refuge. As a result of these animals, habitat and native animal populations are constantly under threat.

Common white snails were found on Fairview Lane as part of a routine noxious weeds inspection by Council's Noxious weeds Inspector. The site is directly adjacent to the Boree Creek Graincorp site, which is believed to be the original site of contamination. The snails are a very significant, costly pest for grain producers in Australia.

5.2.2 Plants/Weed Invasions

The following weeds are listed in order of priority for treatment:

- (a) Coolatai grass – Small isolated infestations of this weed are located within the Shire, most predominantly along the Olympic Way and the Burkes Creek. All known sites are heavily monitored and treated accordingly.
- (b) St Johns Wort – 30% of Council's roads have medium to heavy infestations with a further 50% having isolated plants. All the roads with heavy infestations are also travelling stock routes.
- (c) Silverleaf Nightshade – Found scattered along two Council roads and in isolated patches along five others. The areas do not appear to be spreading at this stage.
- (d) Spiny Burrgrass – A small number of sites exist on Shire roadsides but these are kept under regular attention to ensure that the plant is controlled and eliminated. Two new infestations were discovered last financial year.
- (e) Bathurst Burr – Isolated infestations of Bathurst Burr are found on roadsides throughout the Council area. Many properties have isolated plants but good control work is enforced.
- (f) Horehound – Scattered throughout the Shire mostly as isolated plants and patches, mainly on heavily vegetated and unused roads. Horehound is present on at least 40% of rural properties, mainly around sheds

and stock yards, and under trees. Control is undertaken by Council, however landholders are more complacent. Horehound is at risk of having control requirements removed on a State level.

5.2.3 Land Clearing

Historically, the effect of land clearing would alter bird species diversity, more in favour of the parrots due to the change in food source through the abundance of grain crops. Present roadside reserves and creek lines support less in the way of native mammals, because they are often too narrow, and mammals require a larger home range.

5.2.4 Fires

Cause – The probability that a fire will start is 60% human activity, such as ignition from exhausts, discarded cigarette butts and deliberate (rubbish tips), and 40% lightning strikes.

Extent – The fire season in the Shire is generally from October to March. The timing and length is dependent upon the degree of grass coverage and drought conditions in the district.

Intensity – The climatic influences in this area include very high temperatures in late December through to mid February together with high winds on occasions.

Frequency – In any given year Lockhart Shire experiences between 19-25 fire incidents.

Management – Fuel management strategies: The Aims

- (i) To identify fuels which constitute a hazard to life, property and other community values.
- (ii) Set strategies to be used to manage the accumulation of fuels in identified areas.
- (iii) To identify fuels which need to be managed to protect cultural heritage, natural, scenic and recreational features and to promote biodiversity.

Council continuously works with the NSW Rural Fire Service in regards to mapping and treating fire prone areas on a priority basis. The two bodies meet both locally and on a regional basis to identify and carry out activities as defined in management plans for each area/type of hazard.

5.3. STATE

5.3.1 Local Native Plants and Animals

Species lists of native plants have been compiled and constructed by Geoff Burrows of Charles Sturt University – Riverina.

Further to this a roadside assessment has taken place which has identified local native plants and listed these according to roadside locations. Whilst this has not aimed to be a complete botanical survey, areas of significance have been identified. Copies of this report have been made available to the general public, Landcare groups, local educational institutions, Greening Australia and various government agencies.

A search on the NSW Office of Environment & Heritage Atlas of NSW Wildlife has revealed a total of 874 species recorded in the Shire, with 16 species listed as endangered, and 6 listed as critically endangered on a Commonwealth level:

- Golden Sun Moth
- Plains-wanderer
- Swift Parrot
- White Box Yellow Box Blakely's Red Gum Woodland
- Regent Honeyeater
- Curlew Sandpiper

The lack of thorough survey work in recent years, in the way of trapping and marking animals for recapture, has meant that population sizes, structures and densities have not been ascertained. Through conducting these field studies, a better idea of the conservation status of each animal can be obtained as well as an understanding of the viability and status of the habitat.

5.3.3 Corridors and High Sensitivity Habitat

Roadside verges and creek lines generally provide good habitat for many bird species. However, the suitability of trees as habitat is dependent upon the effect of human impact and the number of habitat trees present – in terms of competition. It is now Council policy that no trees are to be felled on public land in the Shire without permission. The benefit being that older mature trees with developed hollows will remain to provide nesting sites for birds and animals.

The roadside remnant vegetation survey carried out throughout the Shire has identified a number of possibilities for creating linkages and corridors for the movement of native fauna between habitat areas.

5.4 RESPONSE

5.4.1 Reservation and Planning Controls

Both The Rock and Galore Hill Nature Reserves are protected areas by the National Parks and Wildlife Service of NSW and Lockhart Shire Council respectively and are of local/state significance.

5.4.2 Fire Management Planning

Hazard reduction activities are undertaken by Council staff during the year. These include slashing and spraying along roadside verges and around towns, villages, and some crown reserves (including Osborne Recreation Ground). Mitigation activities are also identified and prioritised for work by the NSW Rural Fire Service and Riverina Bush Fire Management Committee. Areas previously identified as high risk fuel sources include the Galore Hill Nature Reserve, The Rock Nature Reserve, Lockhart, The Rock and Yerong Creek villages, State Rail land, and State Forests. Static water storages for aerial fire fighting are located throughout the Shire and in neighbouring Shires.

5.4.3 Introduced Species Control Plan

Weed Control Programs

Council's weed control program continues on public and private lands. Formal notices are issued where required however, in most instances compliance is achieved via educational and awareness campaigns.

Feral Animals

The problem of feral animals remains a point of concern as it does in many urban and rural areas. Appropriate advice is given where possible and educational campaigns reinforced.

5.4.4 Henty to Pleasant Hills Bird Trail

In 2007, with the help of the Greater Hume Shire Council, Lockhart Shire Council and the Eastern Riverina Landcare Group, members of the community compiled a guide book titled "Henty to Pleasant Hills Bird Trail". This publication covered seven sites in the Shire and describes easy walking tracks and provides a comprehensive bird list for the information of members of the public.

5.4.5 Revegetation and Regeneration of Corridors

Direct seeding programs are continuously being conducted by Council through state Government funding, in an attempt to rehabilitate and preserve these linkages and corridors. Lockhart Collingullie Road, French Park Bullenbung Road, Ryans Lane, Bullenbung The Rock Road and Fargunyah Lane have all been directly seeded with indigenous varieties of seeds for encouraging a more developed understory to existing remnant trees. These particular roads have been selected as a result of their conservation value, and their ability to create linkages between other areas of biological significance.



WASTE

6.1 PRESSURE

Council has reported to the NSW Environment Protection Authority that approximately 2,518 tonnes of waste has been received at our landfill sites during the 2016-17 financial year. This includes waste collected through the kerbside collection and pickup programs, and any such waste delivered to landfill in person by residents and ratepayers. Of this waste, 340 tonnes has been diverted and transported to recycling centres, and includes items such as waste oil, chemical drums and E-waste. Many more hundreds of tonnes has been diverted from landfill, but remains stored on site for future processing.

6.2 STATE

Within the Shire there are four operating Council landfill sites. These are:

- Lockhart Garbage Depot – 9.417 Ha
- The Rock Garbage Depot – 8.58 Ha
- Pleasant Hill Garbage Depot – 4.148 Ha
- Yerong Creek Garbage Depot – 4.05 Ha

The Milbrulong landfill site had reached its capacity and was closed on 30 June 2016. The remaining sites have an expected life of 15 years. Previous problems encountered at Lockhart and The Rock depots in regard to windblown material have been in the main eliminated due to the installation of mesh fencing, and the covering of waste material with earth as required.

Waste collected in the shire consists mostly of putrescible wastes, greenwaste (from municipal sources) and construction and demolition waste. The landfill sites are readily available to manage these wastes, with some initiatives in place to divert away from landfill.

Volume of putrescible waste collected (tonnes)	2013/14	2014/15	2015/16	2016/17
Lockhart	323	428	419	432
The Rock	436	554	667	635
Pleasant Hills	34	34	47	40
Yerong Creek	32	32	37	35
TOTAL	842	1063	1180	1142

6.3 RESPONSE

6.3.1 Recycling Programs

Community recycling initiatives

A drumMUSTER program for the collection of used chemical drums has operated for approximately 18 years, and in the financial year ending June 2017 Council has collected 12,140 drums. Collection events are now carried out by local community groups on behalf of the Council, and occur approximately twice annually at the Lockhart, The Rock and Pleasant Hills landfill sites.

A waste paper recycling bin is provided in Urana Street at The Rock for use by residents, and is serviced by Council.

The Lockhart Lions Club also provides a drop-off facility in the Lockhart township for paper, cardboard, glass bottles and aluminium cans, which Council supports financially through transport and recycling contractor costs. All recyclable materials are taken to Kurrajong Recyclers of Wagga Wagga.

Council's recycling initiatives

Following the introduction of kerb-side recycling in July 2010, Council has recorded hundreds of tonnes of recycled materials being diverted from landfill. In the financial year ending June 2017, approximately 211 tonnes of recycled materials from domestic and commercial users was collected.

	2013/14	2014/15	2015/16	2016/17
Volume of comingled recycling collected (tonnes)	189	172	209	211

At Council's landfill facilities and depots a significant amount of waste is diverted from landfill for recycling. Such products include waste oil, batteries, E-waste (computers, televisions), metal waste, concrete and bricks. Council has commissioned a Community Recycling Centre (CRC) at the Lockhart landfill site, for collection of potentially hazardous items such as paint, fluorescent tubes, oil and smoke detectors. This project has been jointly funded by the NSW Waste Less Recycle More program, and Lockhart Shire Council.

In addition, Council also operates a chipper which it uses to shred prunings from street trees and shrubbery. A greenwaste disposal point is located at each landfill site, and Council is conducting a trial composting program at the Lockhart greenwaste site, with the end product to be used in place of similar products purchased externally to the Shire.

The Waste Management Forum formulated under Riverina Eastern Regional Organisation of Councils (REROC) is further investigating recycling issues. Meetings are run every two months, and a Council delegate attends to gauge interest on specific ideas and provide feedback on behalf of the shire.

6.3.2 Clean-Up Programs

Clean-up Australia Days have been operating in Lockhart for the past ten years. In recent years, the response has been very good with specific areas able to be targeted and good results achieved.

Unused, unknown or expired domestic, commercial and agricultural chemicals which are no longer required are being collected through Council-run 'Household Hazardous Waste' programs. This year's collection saw the surrender of almost 200kg of unknown, highly toxic and potentially hazardous chemicals.

Council has spent considerable funds for upgrading works at each of the five waste depots, with the majority being spent on fencing to control wind-blown litter. Cells have been redesigned to minimise impacts of wind on litter distribution, and trees have been planted to provide screening and wind breaks.

6.3.3 Kerbside Waste Collection Programs

Kerbside collection of residual waste is conducted on a weekly basis, with the service available to all villages. Approximately 1172 premises have the collection service available to them, collecting approximately 667 tonnes of residual waste in the 2016-17 financial year.

Each of the Council's four landfill facilities are open at least once per week, with the Lockhart and The Rock facilities also open every second Sunday for residents. Each facility has restrictions on what wastes are accepted, and this is monitored by a trained Council staff member.

6.3.4 Hardwaste collection

Council continues to conduct its annual "kerbside pickup service", this year offered for free to residents of the Lockhart, The Rock and Yerong Creek villages. This service assists residents in the disposal of large items of rubbish, other than household rubbish, that can be left on the front kerb of the property.



NOISE

7.1 PRESSURE

7.1.1 Transport

Traffic by way of cars and trucks is more concentrated in built-up areas than it is in the rural sector, therefore traffic related noise is somewhat more concentrated in the urban areas.

7.1.2 Industrial Sources

Due to the low concentration and nature of industrial sites in the Shire, issues regarding noise are minimal. Once complaints are received on specific industries a base line can be developed on point sources.

7.1.3 Companion animals and livestock

Companion animals in residential properties are common throughout the Shire. Dogs are especially popular, along with domesticated pets and animals including poultry and horses. Noise from barking dogs is by far the most common type of complaint received by Council, with respect to noise.

7.2 STATE

Transport noise would be the main type of noise pollution evident in this Shire, particularly at The Rock and Yerong Creek, where the main Sydney-Melbourne railway line and the Olympic Highway bisect the townships. However, most residents have become accustomed to the sound of traffic, and generally minimal complaints are received, suggesting it is not of great concern to residents.

Noise resulting from the keeping of animals in village areas has been the only source of complaint in regard to noise issues. Complaints generally refer to barking dogs, and in each instance the matter has been dealt with at the time of complaint. On average, there may be 3 outstanding complaints regarding barking dogs, for which Council is required to follow up.

7.3 RESPONSE

There is generally no consistent data to suggest that there exists any form of ongoing noise problems within the Shire necessitating the need for the construction of traffic noise barriers or Council codes to limit such noise. Isolated complaints are dealt with when received, with the assistance of the NSW EPA noise guidelines as appropriate.

Advertising campaigns are frequently undertaken by Council, with the intention of reducing complaints with respect to noise from barking dogs in residential areas.



ABORIGINAL HERITAGE

Lockhart Shire is part Wiradjuri Country, with quite a few locality names derived from the local language. Munyabla, Fargunyah, Yerong, Milbrulong, Mittagong, Urangeline, Mundawaddera are familiar names to those in the region, however Kengal, also known as The Rock Hill, is the best known land form in the Riverina

The archaeology of the Lockhart Shire is part of a distinctive pattern found on the Riverine Plain, which have been dated to 14,000 years, but most are believed to be less than 3,000 years. Artefacts which have been found in the Riverine Plain include, fired clay balls- used for baking food, large artificial deposits or mounds made of fired clay, and stone tools – axes, other cutting implements and seed grinders. Scarred trees, where bark has been removed for various reasons – for making canoes and shields, are widespread and in some locations very abundant. Burials have also been well preserved in this region and are common.

Current known sites to the Council are:

- (i) Location: North-west side of Galore Hill.
Artefacts: Stone tools, burnt clay.
- (ii) Location: Between French Park and Wetmores Lane along Lockhart The Rock Road within the roadside verge.
Site Type: Numerous scarred trees, all are of the same species *Eucalyptus microcarpa* (Grey Box).
- (iii) Location: Bullenbong Creek
Artefacts: Middens and stone tools.
- (iv) Location: Withheld
Artefacts: 1 burial, 1 shelter with deposit, 1 mound, numerous scarred trees.

Council conducts a heritage search and assessment through the Office of Environment and Heritage for all development applications lodged within the Shire, and there are approximately 54 Aboriginal Land Claims which have been made for land in the Lockhart Shire, to June 2017.

No artefacts of significance are known to be in danger of destruction and every effort has been made to preserve other artefacts and/or sites.



POST COLONISATION HERITAGE

Conservation Zones

Within the Lockhart Shire there are three Heritage conservation areas as noted in the Lockhart Local Environmental Plan 2012, these being in Lockhart, The Rock and Yerong Creek. These streetscapes were identified as significant by the National Trust of Australia (NSW). These areas have been classified in order to preserve existing buildings where possible and new developments should take into consideration the special qualities that the area possesses and not be in conflict with these.

- Lockhart has been listed because of its continuous lines of verandah posts on both sides of the main street in the central area. This same area is a good example of the turn of the century architecture.
- The Rock preserves much of its original twentieth century character, derived from its wide park-like main street and the visual domination of The Rock Hill.
- Yerong Creek has a wide, well-kept slightly bent main street, offering a sense of enclosure. Buildings were constructed between 1880 and 1910 and are in reasonable condition.

Heritage Items

In the 2012 Lockhart Local Environmental Plan, 14 items of historical significance are listed. The items so listed have special statutory provisions pertaining to their protection as listed below.

A person shall not, in respect of a heritage item (except with consent of council):

- (a) demolish or alter the building or work;
- (b) damage or move the relic, including excavation for the purpose of exposing the relic;
- (c) damage or despoil the place or tree;
- (d) erect a building on or subdivide land on which the building, work or relic is situated or that comprises the place;
or
- (e) damage any tree on land which the building, work or relic is situated or on land which comprises the place.

This list of significant heritage items and conservation areas was compiled from a list of buildings and places suggested by the Council and the National Trust.

Heritage Advice

Council employs a consultant to provide heritage advice on developments and projects within the Shire. The advisor visits the Council on a monthly basis, and provided advice on 12 separate occasions for individual projects, while also drafting and/or reviewing specific strategic planning documents utilised by Council.



CONCLUSION

Detail in this report indicates that the land and natural resources in the Shire remain under significant pressure. Progressive improvements in farming practices and land management are highly valuable, and are becoming an important consideration for many operators. However, with expansion from grazing to broad acre, cropping style farming, areas requiring rehabilitation are being neglected. The biodiversity of terrestrial ecosystems has remained relatively stable over recent time, with the greatest pressures being in the terrestrial systems.

The often unregulated pressures on local heritage (both pre and post settlement) can potentially cause the loss of valuable heritage items, giving a negative trend in this regard. This is compensated for by the increased awareness and protection measures for Heritage items provided under the Lockhart Local Environmental Plan 2012, and extensive consideration given during development assessments.

Overall, the reporting period has seen no significant consequences from major environmental events. Waste volumes appear to be decreasing slightly as a result of new recycling initiatives, and the pressure on the catchment and infrastructure from greater rainfall volumes has increased.